

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please cancel Claims 2, 13-29, 34, 35, 38-41, 43, 46, and 48-58.

4 Please amend Claims 1, 3, 4, 8, 9, 30, 42, 44, 45, and 47; and add new Claims 59 and 60, as
5 follows:

6 1. (Currently Amended) Apparatus for illuminating a portion of a body lumen to which a
7 photoreactive agent has been or will be administered, comprising:

8 (a) an elongate, flexible body having a proximal end, a distal end, and at least one
9 lumen extending therebetween;

10 (b) a light source array having a proximal end and a distal end, the light source
11 array emitting light directed toward the distal end of the elongate, flexible body, said light having a
12 characteristic emission waveband, where the characteristic emission band corresponds to a
13 characteristic absorption waveband of the photoreactive agent, the light source array being disposed
14 adjacent to the distal end of the elongate, flexible body;

15 (c) an electrical lead having a proximal end adapted to be electrically coupled to
16 an external power supply, and a distal end electrically coupled to the light source array, thereby
17 enabling the light source array to be energized with an electrical current when the proximal end of the
18 electrical lead is electrically coupled to the external power supply; [[and]]

19 (d) a light diffusing element having a proximal end and a distal end, the proximal
20 end of the light diffusing element being oriented in a facing relationship with the distal end of the
21 light source array, such that light emitted from the light source array is diffused and directed
22 outwardly away from the light diffusing element; and

23 (e) an optical fiber having a proximal end, and a distal end, the proximal end of
24 the optical fiber facing toward the distal end of the light source array, and the distal end of the optical
25 fiber directing light from the light source array to the light diffusing element.

26 2. (Canceled)

27 3. (Currently Amended) The apparatus of ~~Claim 2~~ Claim 1, wherein the optical fiber is
28 tapered, such that the distal end of the optical fiber has a smaller cross-section than the proximal end
29 of the optical fiber.

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1 4. (Currently Amended) The apparatus of ~~Claim 2~~ Claim 1, wherein the optical fiber
2 comprises a bundle of optical fibers.

3 5. (Original) The apparatus of Claim 1, further comprising an optical element having a
4 proximal side and a distal side, the proximal side of the optical element facing toward the distal end
5 of the light source array, and the optical element focusing light emitted from the light source array.

6 6. (Original) The apparatus of Claim 1, wherein the light diffusing element is generally
7 cylindrical.

8 7. (Original) The apparatus of Claim 1, wherein the light diffusing element comprises a
9 plurality of light diffusing members.

10 8. (Currently Amended) The apparatus of Claim 1, wherein the light source array comprises
11 a ~~plurality of~~ plurality of light emitting devices and conductive traces electrically coupling the
12 plurality of light emitting devices to the electrical lead, thereby enabling the light emitting devices to
13 be energized with the electrical current from an external power source.

14 9. (Currently Amended) The apparatus of Claim 1, ~~further comprising~~ further comprising:

15 (a) an expandable member substantially encompassing the light diffusing element;
16 and

17 (b) an inflation lumen extending between the proximal end of the elongate,
18 flexible body and the expandable member.

19 10. (Original) The apparatus of Claim 9, wherein the inflation lumen further extends
20 between the distal and proximal ends of the light source array.

21 11. (Original) The apparatus of Claim 9, wherein the inflation lumen further extends
22 between the elongate, flexible body and the light diffusing element, through any intervening element
23 included in the apparatus.

24 12. (Original) The apparatus of Claim 1, wherein the light source array comprises reflective
25 elements configured to reflect light emitted by the light source array toward the distal end of the light
26 source array, increasing an intensity of light emitted from the distal end of the light source array.

27 13.-29. (Canceled)

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1 30. (Currently Amended) Apparatus for illuminating a portion of a body lumen to which a
2 photoreactive agent has or will be administered, comprising:

3 (a) an elongate, flexible body having a proximal end, a distal end, and at least one
4 lumen; [[and]]

5 (b) a light source element disposed adjacent to the distal end of the elongate,
6 flexible body, the light source element being electrically coupled to an electrical lead that is adapted
7 to couple to an external power supply, to enable the light source element to be energized with an
8 electrical current, thereby illuminating at least a portion of the body lumen, the light source element
9 emitting light having a characteristic emission waveband corresponding to a characteristic absorption
10 waveband of the photoreactive agent, the light source element having a proximal end, and a distal
11 end, the distal end of the light source element facing toward the distal end of the elongate, flexible
12 body;

13 (c) a light diffusing element having a proximal end and a distal end, the proximal
14 end of the light diffusing element facing toward the distal end of the light source element, so that
15 light emitted from the light source element is diffused and directed outwardly away from the light
16 diffusing element; and

17 (d) an optical fiber having a proximal end, and a distal end, the proximal end of
18 the optical fiber facing toward the distal end of the light source element, and the distal end of the
19 optical fiber facing toward the proximal end of the light diffusing element, the optical fiber directing
20 light from the light source element to the light diffusing element.

21 31. (Original) The apparatus of Claim 30, wherein the light source element includes a
22 plurality of light sources.

23 32. (Original) The apparatus of Claim 31, wherein the plurality of light sources are each light
24 emitting devices.

25 33. (Original) The apparatus of Claim 31, wherein the plurality of light sources are
26 configured in a radial array.

27 34.-35. (Canceled)

28 36. (Original) The apparatus of Claim 31, wherein the plurality of light sources include at
29 least one first type of light source emitting light of a first wavelength, and a second type of light
30 source emitting light of a second wavelength.

1 37. (Original) The apparatus of Claim 30, further comprising at least one light sensor.

2 38.-41. (Canceled)

3 42. (Currently Amended) The apparatus of ~~Claim 41~~ Claim 30, further comprising:

4 (a) an expandable member substantially encompassing the light diffusing element;
5 and

6 (b) an inflation lumen extending between the proximal end of the elongate,
7 flexible body and the expandable member, in fluid communication with a volume encompassed by
8 the expandable member.

9 43. (Canceled)

10 44. (Currently Amended) The apparatus of ~~Claim 43~~ Claim 30, wherein the optical fiber is
11 tapered, such that the distal end of the optical fiber has a smaller cross-section than the proximal end
12 of the optical fiber.

13 45. (Currently Amended) The apparatus of ~~Claim 44~~ Claim 30, further comprising an optical
14 element having a proximal side, and a distal side, the proximal side of the optical element facing
15 toward the distal end of the light source element, said optical element focusing light emitted from the
16 light source element.

17 46. (Canceled)

18 47. (Currently Amended) The apparatus of ~~Claim 40~~ Claim 30, further comprising:

19 (a) an expandable member substantially encompassing the light source element;
20 and

21 (b) an inflation lumen extending between the proximal end of the elongate,
22 flexible body and the expandable member, in fluid communication with a volume encompassed by
23 the expandable member.

24 48.-58. (Canceled)

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1 59. (New) Apparatus for illuminating a portion of a body lumen to which a photoreactive
2 agent has been or will be administered, comprising:

3 (a) an elongate, flexible body having a proximal end, a distal end, and at least one
4 lumen extending therebetween;

5 (b) a light source array having a proximal end, and a distal end, the light source
6 array emitting light directed toward the distal end of the elongate, flexible body, said light having a
7 characteristic emission waveband, where the characteristic emission waveband corresponds to a
8 characteristic absorption waveband of the photoreactive agent, the light source array being disposed
9 adjacent to the distal end of the elongate, flexible body;

10 (c) an electrical lead having a proximal end adapted to be electrically coupled to
11 an external power supply, and a distal end electrically coupled to the light source array, thereby
12 enabling the light source array to be energized with an electrical current when the proximal end of the
13 electrical lead is electrically coupled to the external power supply;

14 (d) an optical element having a proximal side, and a distal side, the proximal side
15 of the optical element facing toward the distal end of the light source element, said optical element
16 focusing light emitted from the light source element; and

17 (e) a light diffusing element having a proximal end, and a distal end, the proximal
18 end of the light diffusing element being oriented in a facing relationship with the distal end of the
19 light source array, such that light emitted from the light source array and focused by the optical
20 element is diffused and directed outwardly away from the light diffusing element.

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1 60. (New) Apparatus for illuminating a portion of a body lumen to which a photoreactive
2 agent has or will be administered, comprising:

3 (a) an elongate, flexible body having a proximal end, a distal end, and at least one
4 lumen;

5 (b) a light source element disposed adjacent to the distal end of the elongate,
6 flexible body, the light source element being electrically coupled to an electrical lead that is adapted
7 to couple to an external power supply, to enable the light source element to be energized with an
8 electrical current, thereby illuminating at least a portion of the body lumen, the light source element
9 emitting light having a characteristic emission waveband corresponding to a characteristic absorption
10 waveband of the photoreactive agent, the light source element having a proximal end, and a distal
11 end, the distal end of the light source element facing toward the distal end of the elongate, flexible
12 body;

13 (c) an optical element having a proximal side, and a distal side, the proximal side
14 of the optical element facing toward the distal end of the light source element, said optical element
15 focusing light emitted from the light source element; and

16 (d) a light diffusing element having a proximal end, and a distal end, the proximal
17 end of the light diffusing element facing toward the distal end of the light source element, so that
18 light emitted from the light source element is diffused and directed outwardly away from the light
19 diffusing element.